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ABSTRACT

In this annual summary of achievement data for Elementary and Secondary Education Act (ESEA) Title I programs in New York State for the 1975-1976 school year, the three priority areas designated for instruction by the Board of Regents were reading, mathematics, and bilingual education. The last area was subsequently interpreted to consist of (1) oral fluency and aural comprehension in English by speakers of other languages, and (2) visual literacy in English reading and visual literacy in Spanish for Hispanic Americans. Superimposed across all projects employing norm referenced tests was the question: Did each treatment group demonstrate achievement beyond expectation (based upon the pupil's own past performances)? Overall, the data indicated that as a result of this program in excess of 100,000 Upstate and 180,000 New York City children who were consistently meeting failure in the basic skills areas were diminishing the distance between themselves and the norms by which they were being judged. (Author/AM)

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The University of the State of New York
THE STATE EDUCATION DEPARTMENT
Bureau of School and Categorical Programs Evaluation
Albany, New York 12234

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ESEA TITLE I

EVALUATION REPORT

NEW YORK STATE

1975-76

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The University of the State of New York
THE STATE EDUCATION DEPARTMENT
Bureau of School and Categorical Programs Evaluation
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INTRODUCTION

An annual summary of achievement data submitted by local education agencies was prepared for distribution to school persons, taxpayers, and other interested publics. The report consists of highlights taken from the official New York State Annual Evaluation Report for 1975-76 Fiscal Year.[1/]

Under Public Law 93-380, 1974 Congress provided for the continuation of resources to be used for supplementary activities directed at educationally disadvantaged pupils. At the time that the original act was passed, some evidence existed to indicate that economically disadvantaged pupils were generally the poorest performers in academic pursuits and that their performance became worse as they proceeded from the elementary to the secondary grades. Poor school performance has been correlated with low economic opportunity and eventual overall low socio-economic status. This report contains extremely supportive evidence in New York State that the infusion of Federal monies for compensatory education can bring about increments in academic achievement beyond the performance expected without such aid. The local education agencies are to be commended for translating support into activities yielding such impressive growth in basic skills.

Various evaluative aspects of the ESEA Title I program are handled by George A. Cronk, Jr., Eileen Kelly and Robert Miller throughout each academic year. They are assisted by A. Harry Smith. One of the results of such teamwork is the production of this report.

[1/] The official document conforms to the requirements set forth by the U. S. Office of Education and is available upon request from the Bureau of School and Categorical Programs Evaluation.

CHAPTER I

ADMINISTRATIVE SUMMARY

The three priority areas designated by the Board of Regents for instruction were reading, mathematics, and bilingual education. The last area was subsequently interpreted to consist of (1) oral fluency and aural comprehension in English by speakers of other languages, (2) visual literacy in English reading and visual literacy in Spanish for Hispanic Americans. Superimposed across all projects employing norm-referenced tests (so that comparable data leading to programwide inferences were derived) was the question: Did each treatment group demonstrate achievement beyond expectation (based upon the pupil's own past performances)? The local education agency subjected the pretest scores to a regression equation that estimated where the target population might place at the posttest in the absence of ESEA Title I services. A comparison of the obtained posttest was made with the estimated posttests by means of an inferential statistic so that real differences would be detected. Where historical data did not exist, the difference between pretest scores and posttest scores was subjected to inferential analysis.

While the scores of those participating in the three priority areas of reading, mathematics, and bilingual education were from samples with appropriate test data, generalizations to the total treatment groups have been avoided. Only scores of pupils who had a pretest and posttest were included in the district-prepared analyses subsequently aggregated by the State. Such data indicated that pupils in remedial treatments either moved closer to the average (more advantaged) pupil's performance or accelerated their rates of growth concurrently with participation in district-designed ESEA, Title I projects.

...The group means for over 926 Upstate and over 1,420 New York City prekindergarten disadvantaged participants were found to be significantly different (and positive in direction) between pretest and posttest distributions in reading and mathematics readiness.

...In English language fluency and aural comprehension, more than 460 Upstate and 7,790 New York City non-English-or limited English-speaking pupils demonstrated improvement beyond their performance at the outset of the projects.

...In remedial reading projects, over 74,700 Upstate and 98,700 New York City Title I participants closed the gap between themselves and the average achieving peers at a rate of over one month gain for each month of Title I treatment.

...About 5,300 bilingual participants from Upstate and New York City demonstrated an increase in their capacity to read English. Additionally, 9,338 Spanish dominant participants increased in their capacity to read Spanish.

...In remedial reading projects, over 74,700 Upstate and 98,700 New York City Title I participants closed the gap between themselves and the average achieving peers at a rate of over one month gain for each month of Title I treatment.

...In remedial mathematics treatments, nearly 22,900 Upstate and 51,000 New York City pupils who had previously learned at an average rate of half that of advantaged pupils achieved 1.5 month gain for each month of ESEA, Title I supplementary services.

The interpretations of the findings do not permit evaluators to claim that the ESEA, Title I program in New York State was an unqualified success. For example, approximately 33,000 reading and mathematics participants did no better while participating in Title I treatments than they had done prior to intervention. It should be noted that there are features of the procedures applied to the data in this report which could produce a tendency to overestimate the effectiveness of the categorically aided compensatory education programs. However, many experts feel that no one factor would be expected to produce positive findings of the strength observed, and the possibility that all of such factors had combined in their most extreme form to produce such apparently favorable results seems very remote.

Overall, the data indicated that in excess of 100,000 Upstate and 180,000 New York City educationally disadvantaged project participants who were consistently meeting failure in the basic skills areas were diminishing the distance between themselves and the norm by which they were being judged. In other words, while participating in the regular classroom and in supplementary services, the 280,000 participants demonstrated the capacity to achieve at higher rates of growth than without the ESEA, Title I basic skills remedial activities. Districts, judiciously expending ESEA, Title I monies in New York State, again demonstrated that given supplementary resources, positive changes in pupil behavior in the basic skills areas (beyond the growth expected in the absence of funded projects for disadvantaged learners) can be brought about on a massive scale.

CHAPTER II

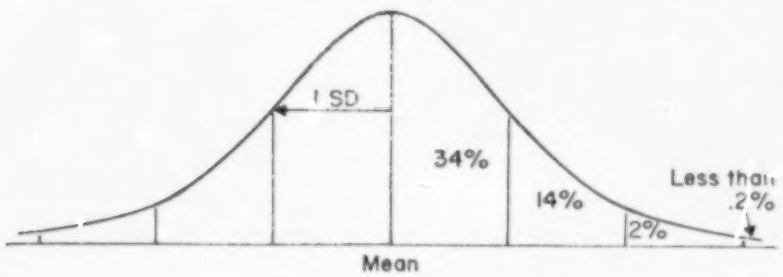
COGNITIVELY ORIENTED READINESS

Districts selected objectives that specified improved pre-reading or pre-mathematics skills for pupils of the prekindergarten and/or kindergarten age span. Measurement devices, developed to assess cognitive behavior in this age span often measure reading or mathematics readiness skills simultaneously (e.g., left-to-right perceptions are necessary for following English language print and the initial steps of understanding the number line continuum). The assumption was made that the several devices sampled equivalent behaviors (content oriented) albeit in various ways, prior to aggregating the data from several projects.

Reporting Changes

Illustration 1 consists of a bell-shaped normal distribution (a theoretical mathematical distribution frequently used in describing the characteristics of a population since actual data often behave like the theoretical distribution) which shows the mean (arithmetic average) marked on the base. The median which is a middle point (or the point below which 50 percent of the cases lie) may be at the same point on the base. The area of the curve is marked off into regions which are used to describe the dispersion of the population. In this case, the statistic "standard deviation" was selected. Such deviations are both plus (to the right of the mean) and minus (to the left) in nature, together they total 100 percent. Each deviation constitutes a smaller percentage of cases in each region as the curve is followed out from its center (mean).

Illustration 1



Normal distribution, showing percentage of cases falling in each region

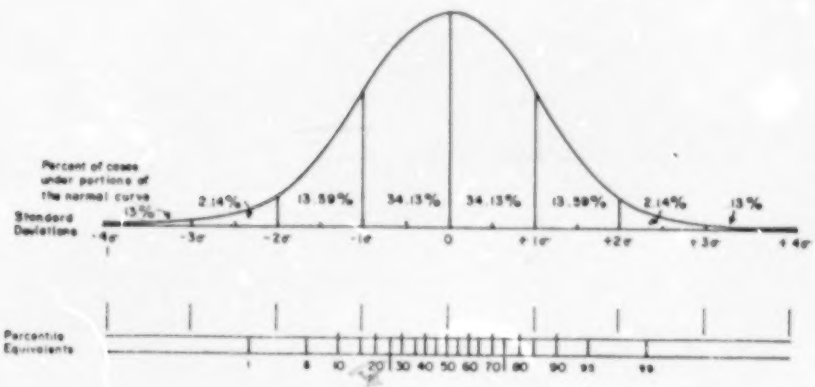
If all students learned at the same rate, the resultant score distributions would not change over the years. Said another way, the average student would maintain his place at the mean or median point of his group year after year. However, there is usually a change in the standing of individual learners but such change is not enough to affect the general shape of the whole distribution.

Learners in compensatory education usually are drawn from the bottom (left side) of the population, at a point from slightly above minus one standard deviation all the way to the left end of the chart. It is believed that if supplemental education is bringing about positive results then the relative position of the average student score will not remain in the same position, rather the average student score will move to the right.

While any positive changes in scores between pre and posttest are desirable, the learner profits most from changes which place his posttest score near or above the mean. Earlier it was pointed out that the mean is the average for all of the learners who were administered a given test when that test was normed.

It is difficult to envision score difference within the minus one standard deviation region. Thus in illustration 2, the base line from illustration 1 has been divided into 100 intervals. Each such space is referred to as a percentile equivalent. The vertical lines in the two illustrations are in identical positions.

Illustration 2



Percentile Equivalents

Using the two illustrations as reference points, it may now be possible to show progress graphically on single bar charts.

Prekindergarten

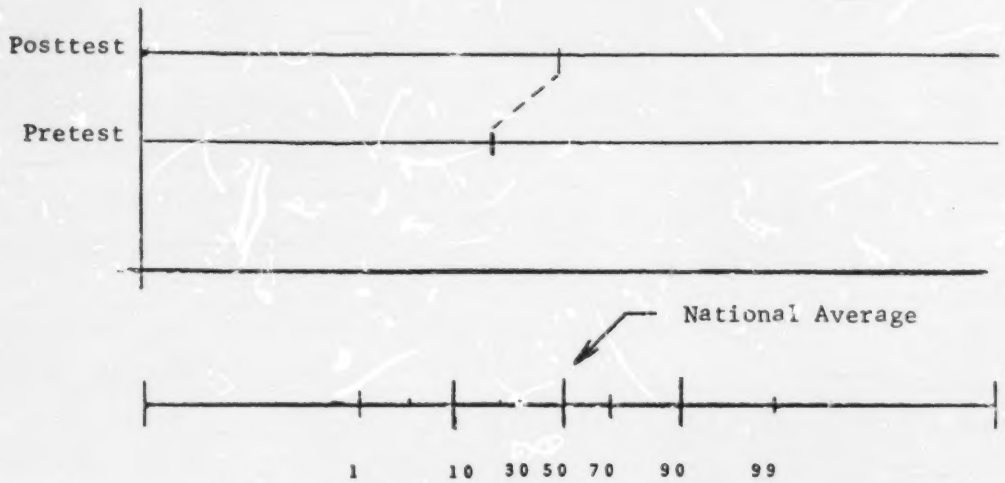
An average performer would score at the zero mark on the normal curve or at the 50th percentile equivalent at a given pretest and posttest date.

The average prekindergarten participant (among 379 in a reading readiness activity) advanced from the 13th to the 42nd percentile rank. While such participants have not reached the distribution of the publishers for normal achievers, they are much closer to the national average at the conclusion of the treatments than at the outset.

Iilustration 3

Prekindergarten Reading Readiness

N = 379



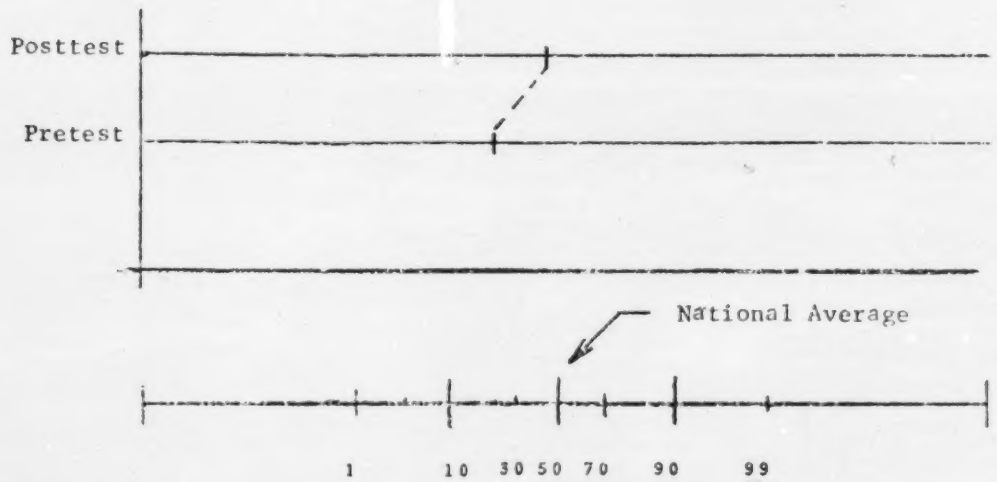
Percentile Equivalents

The average prekindergarten target participant (among 970) advanced from the 18th percentile equivalent of the national norm on the pretest to the 43rd percentile rank on the posttest.

Illustration 4

Prekindergarten Mathematics Readiness

N = 970



Percentile Equivalents

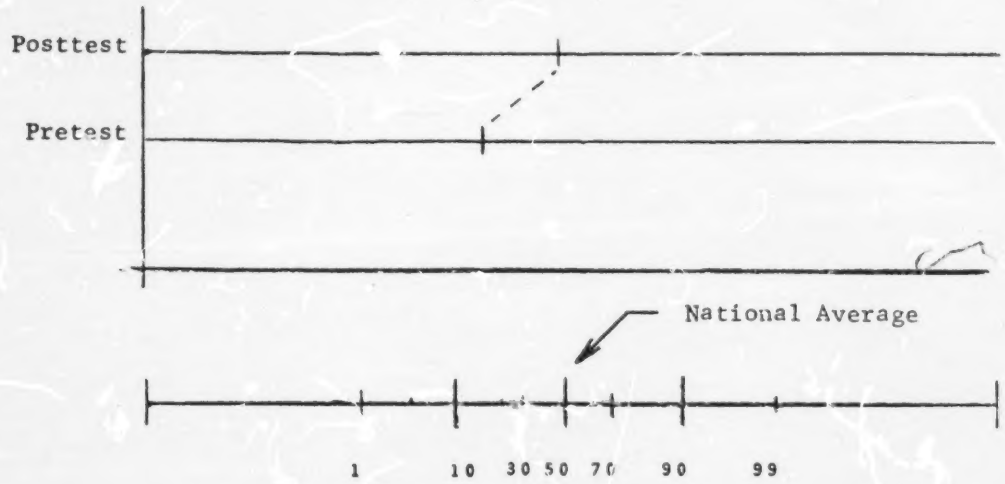
Kindergarten

Weighted group means of several score types from the pretests and posttests were aggregated and converted to percentile equivalents. Illustrations 5 and 6 depict the kindergarten target population's performance on reading and mathematics readiness pretest and posttests.

Illustration 5

Kindergarten Reading Readiness

N = 4,781



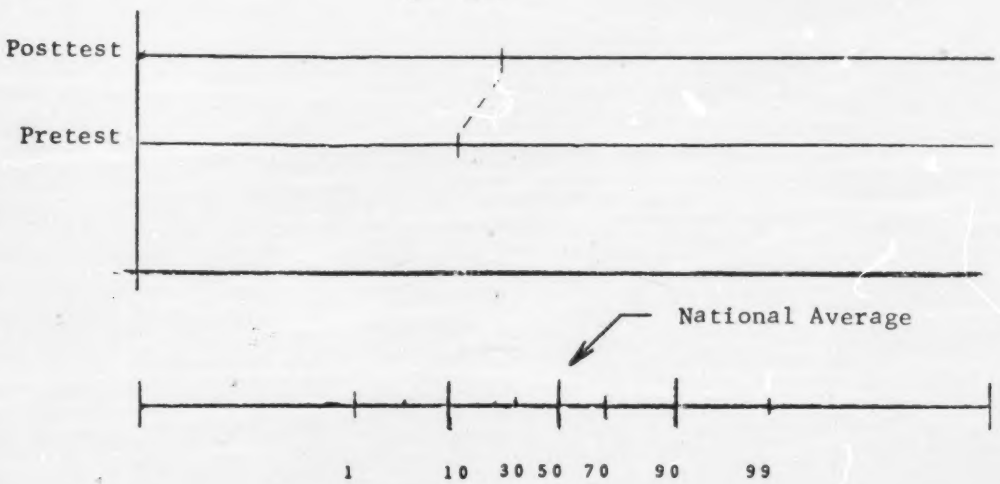
Percentile Equivalents

The typical kindergarten reading readiness participant (among 4,781) advanced from the 22nd to the 50th percentile equivalent between the pretest and posttest administrations.

Illustration 6

Kindergarten Mathematics Readiness

N = 819



Percentile Equivalents

The average kindergarten pupil (among 819) advanced from the 13th to the 21st percentile equivalent between the pretest and posttest measurement dates.

Among Upstate and New York City prekindergarten and kindergarten participants, the magnitude of the readiness improvement was found to be approximately equal, although New York City participants usually started at a somewhat lower initial position.

CHAPTER III

BILINGUAL PUPIL ENGLISH LANGUAGE FACILITY

Bilingual education, as funded within the ESEA, Title I program was confined to (1) oral fluency and aural comprehension in English by speakers of other languages (2) visual literacy in English reading, and (3) visual literacy in Spanish for Spanish speaking pupils. The treatments that dealt mainly with English as a second language (ESL) sought to improve listening or auditory recognition and speaking or encoding speech in English supported increased language facility.

Most ESL, ESEA, Title I participants were Spanish language dominant and were found largely in New York City. The Oral Language Proficiency Scale (a four-factor scale involving comprehension, structure and syntax, vocabulary, and pronunciation) employing six scalar intervals (from low achievement to high achievement) and leading to a composite score (sum of subtests divided by four) was administered in most New York City projects. The Upstate ESL participants were tested with aural recognition subtest of the Stanford Achievement Test, the Peabody Picture Vocabulary Test, and Michigan Oral Language Scale.

Data in table 1 reveal the performance of Upstate and New York City ESL pupils in treatments, lasting more than three months.

Table 1

Achievement in English Language Facility

	Treatment Group	Group Data for Pupils Present at Both Pretest and Posttest
Kindergarten		
Upstate	50	43
New York City	979	725
Grades 1-3		
Upstate	195	153
New York City	4,532	4,316
Grades 4-6		
Upstate	311	193
New York City	2,572	1,822
Grades 7-9		
Upstate	77	69
New York City	1,232	929
Totals		
Upstate	633	466
New York City	9,315	7,792
Combined Total	9,948	8,258 met group's objectives

An improvement in oral facility was detected for the group means of 7,792 of the New York City tested participants. The Upstate participants, described in table 1 comprised about 6 percent of the English language facility target population, also showed improvement in oral facility.

An additional 4,581 pupils were assessed for growth in recognition of spoken English as measured by listening tests.

Table 2

English as a Second Language
(Auditory Recognition Achievement)

Grade Interval	Participants	
	Treated	Tested
1-3	2,185	1,827
4-6	1,022	1,014
7-9	2,442	1,740
TOTAL	5,649	4,581 met group's objectives

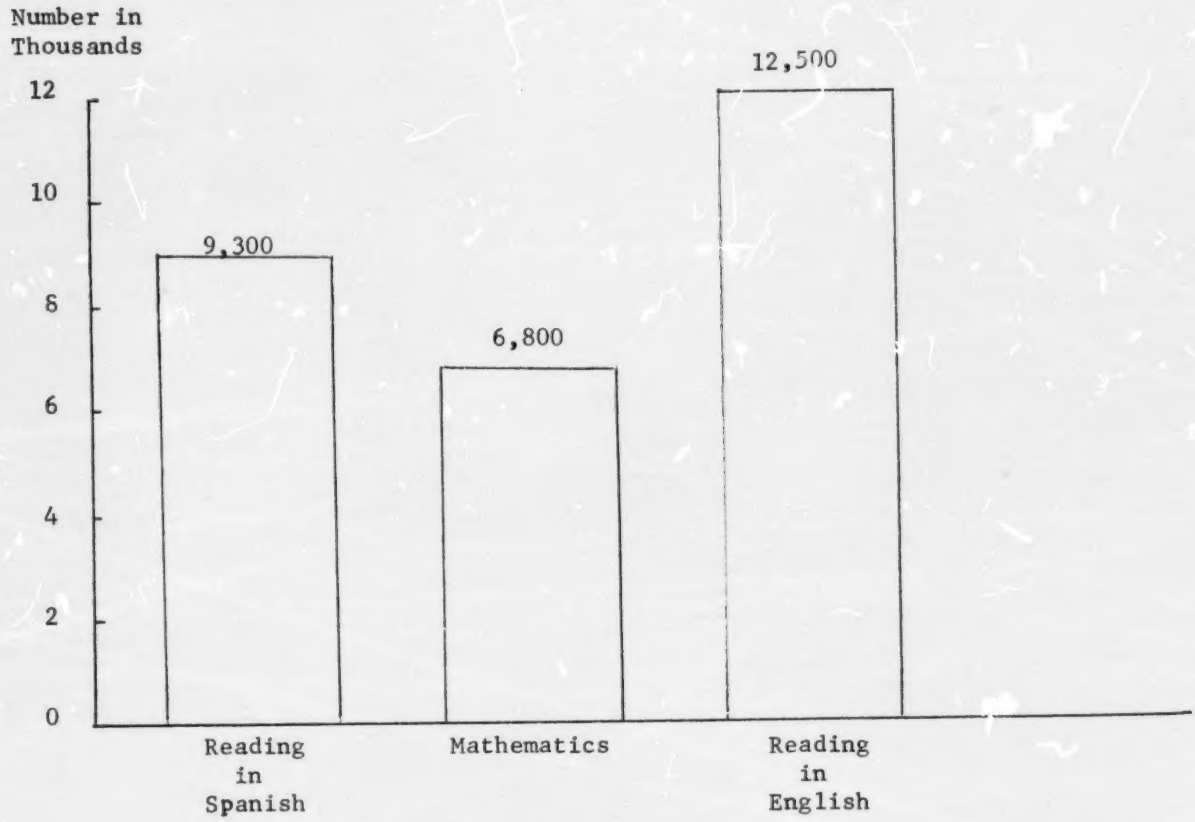
Among the 4,581 participants assessed for improved English listening and recognition abilities, the actual differences between pretest and posttest distribution of group means indicated that the auditory recognition objective was met.

Overall, the group means for over 12,839 participants in English as a Second Language treatments indicated greater proficiency in oral facility and aural comprehension in the English Language at the conclusion of the effort than at the outset of the supplementary activities. While improved performance cannot be attributed solely to ESEA, Title I services, the bilingual pupils demonstrated a greater facility in speaking and understanding spoken English after participation in Title I treatments.

In addition to improving bilingual pupils' capacity to speak and understand English, some participants received supplementary instruction in reading English and reading Spanish. Where participants were nearly monolingual in another language, instruction in mathematics skills was conducted and assessed in the non-English language. Data indicating growth in reading and mathematics skills by such participants was collected in such a way as to determine achievement. Such data were not merged with the reading and mathematics data reported in Chapter IV and V. Illustration 5 reveals the extent of the participants demonstrating achievement in basic skills but through a bilingual methodology.

Illustration 7

Bilingual Participants Who Achieved Objectives
in Basic Skills Areas



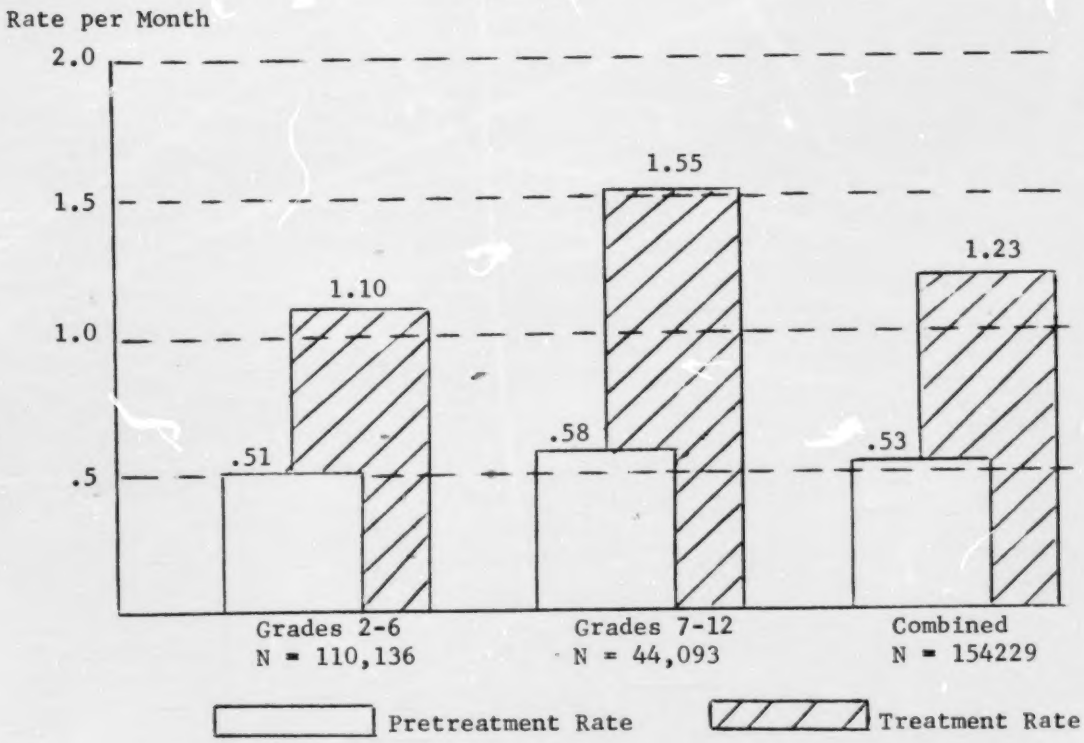
CHAPTER IV

READING ACHIEVEMENT

Reading achievement data were collected on either norm-referenced devices or criterion-referenced devices. Scores collected on norm-referenced devices were transformed into grade equivalent units or percentile rank positions and permitted comparisons of treatment group averages to the norming population. Where districts confined the treatments to a small slice of content, criterion-referenced devices were administered to determine where instructional objectives were met (mastered) or failed. Criterion-referenced performance data are available from the Bureau of School and Categorical Programs Evaluation upon request. The norm-referenced data shown in illustration 6 to 10 were group means aggregated and transformed to indicate participants' performance both prior to ESEA, Title I intervention and at the conclusion of the intervening activity.

Illustration 8

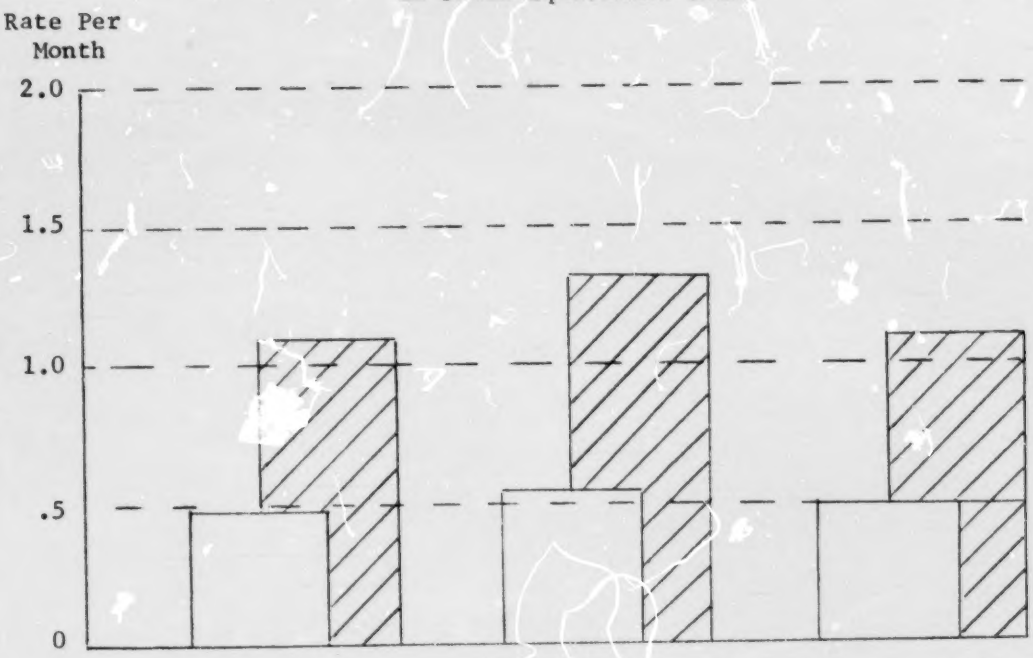
Public School Reading Achievement
in Grade Equivalent Units



Close to 155,000 public school pupils more than doubled their rate of achievement while participating in the ESEA, Title I treatments.

Illustration 9

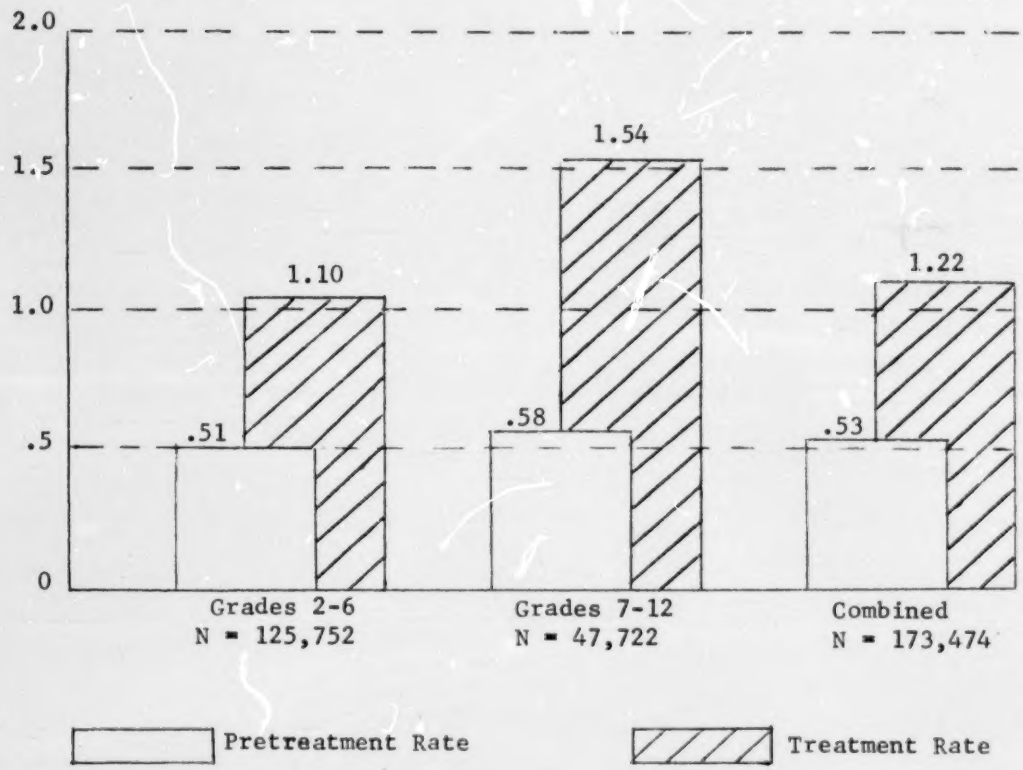
Nonpublic School Reading Achievement
in Grade Equivalent Units



About 19,000 nonpublic school participants in remedial reading activities ceased falling behind at a rate of one-half month for each month of regular school sessions. The pupils were reducing their accumulated deficit by .2 month for each month of participation by the conclusion of the ESEA Title I activities.

Illustration 10

Combined Public and Nonpublic Reading Achievement
in Grade Equivalent Units

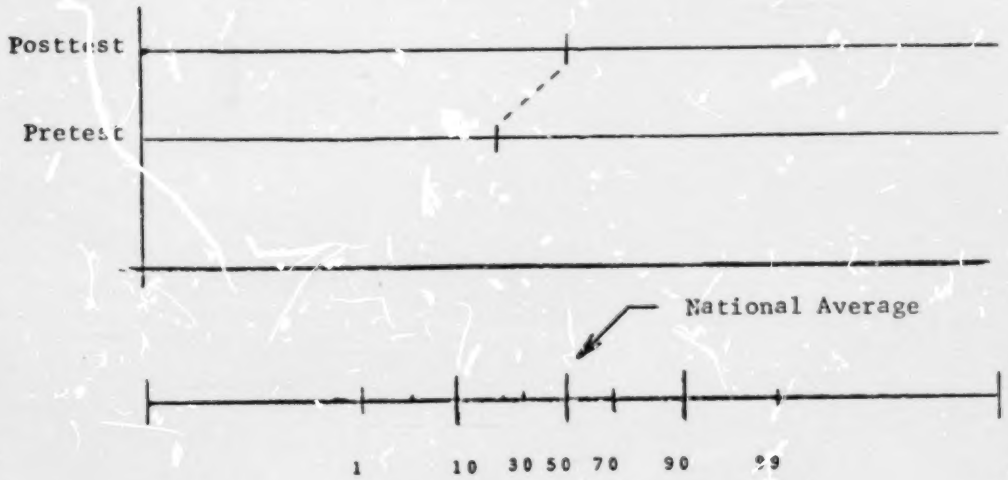


The 173,000 public and nonpublic school pupils increased their rate of reading achievement by .7 month for each month of participation. Not only had they ceased falling further behind, but had begun to close the gap between themselves and the average achieving pupil.

Illustration 11

Participants Reading Achievement

N = 14,716



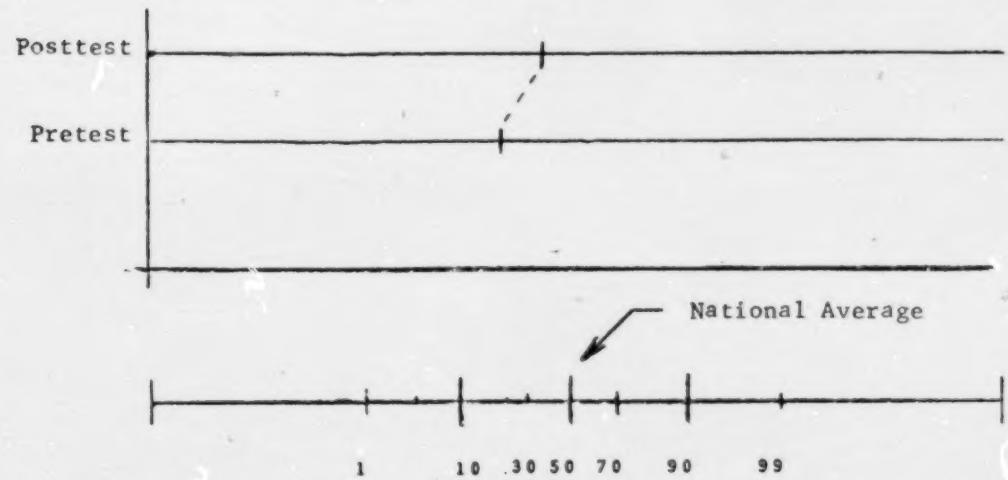
Percentile Equivalents

The average (middle most) score among about 15,000 elementary public and nonpublic school participants advanced 26 percentile equivalent positions during the Title I reading intervention, the posttest rank expected would be identical to the pretest percentile rank.

Illustration 12

Participants Reading Achievement

N = 5,043



Percentile Equivalents

The 5,000 secondary reading participants dispersed around an average at the 24th percentile on the pretest administration. The middlemost pupil obtained a percentile equivalent of 34 on the posttest, an advance of 10 percentile ranks over the achievement expected in the absence of ESEA Title I intervention.

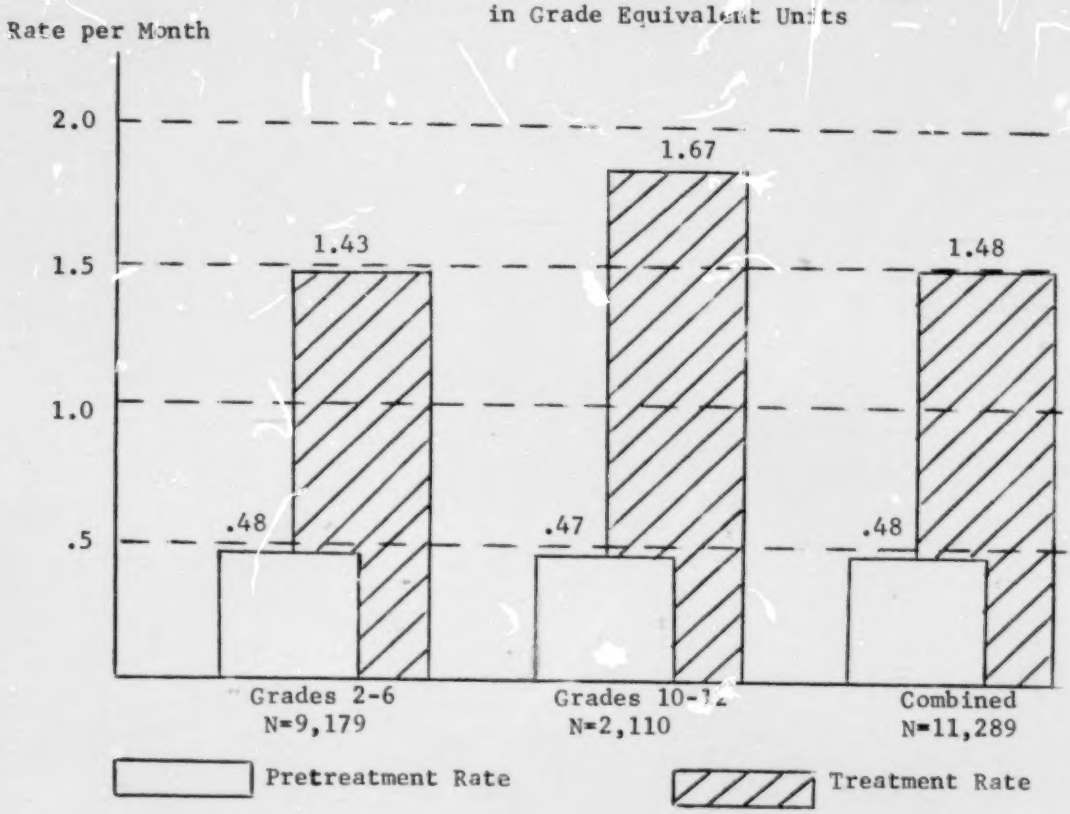
CHAPTER V

MATHEMATICS ACHIEVEMENT

Mathematics achievement data were collected on norm-referenced and criterion-referenced devices in the same fashion described for reading treatments. Data for bilingual participants were segregated and reported in chapter three since reading translation skills may have confounded the measure and some norm-referenced measures were constructed in Spanish.

Illustration 13

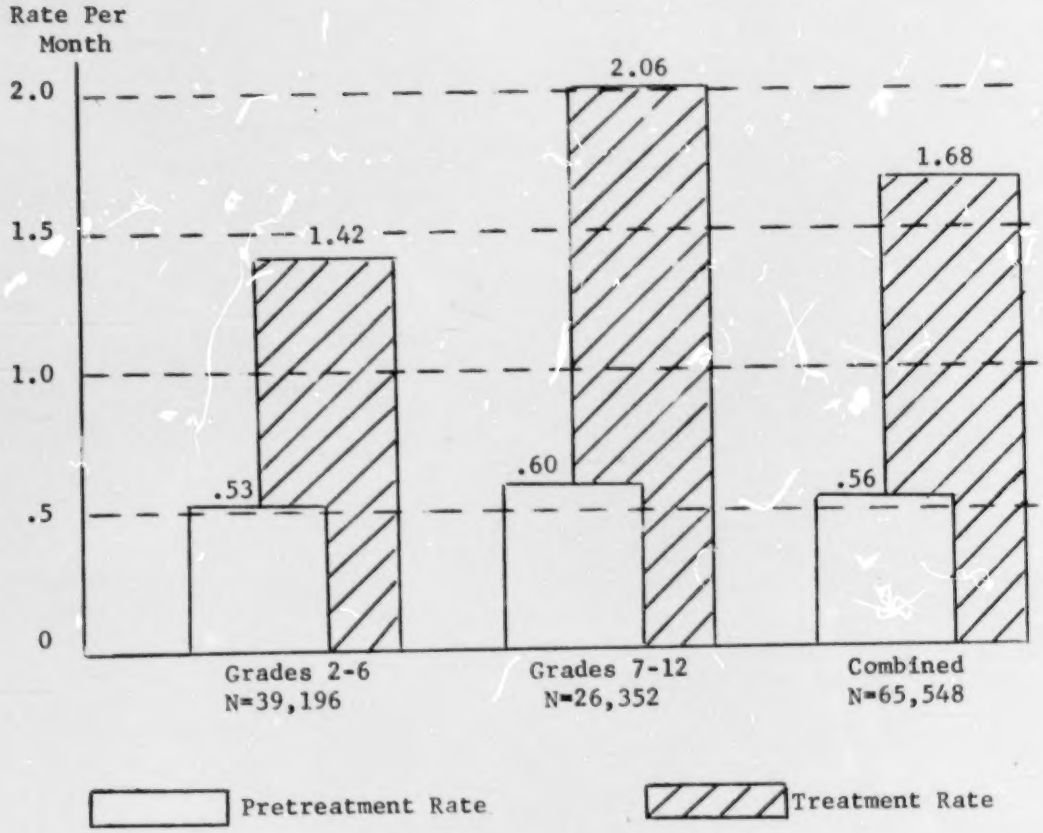
Nonpublic School Mathematics Achievement
in Grade Equivalent Units



About 11,000 nonpublic school participants in remedial mathematics activities ceased falling behind at a rate of one-half for each month of regular school sessions. The pupils were reducing their accumulated deficit by nearly one whole month for each month of participation in the treatments.

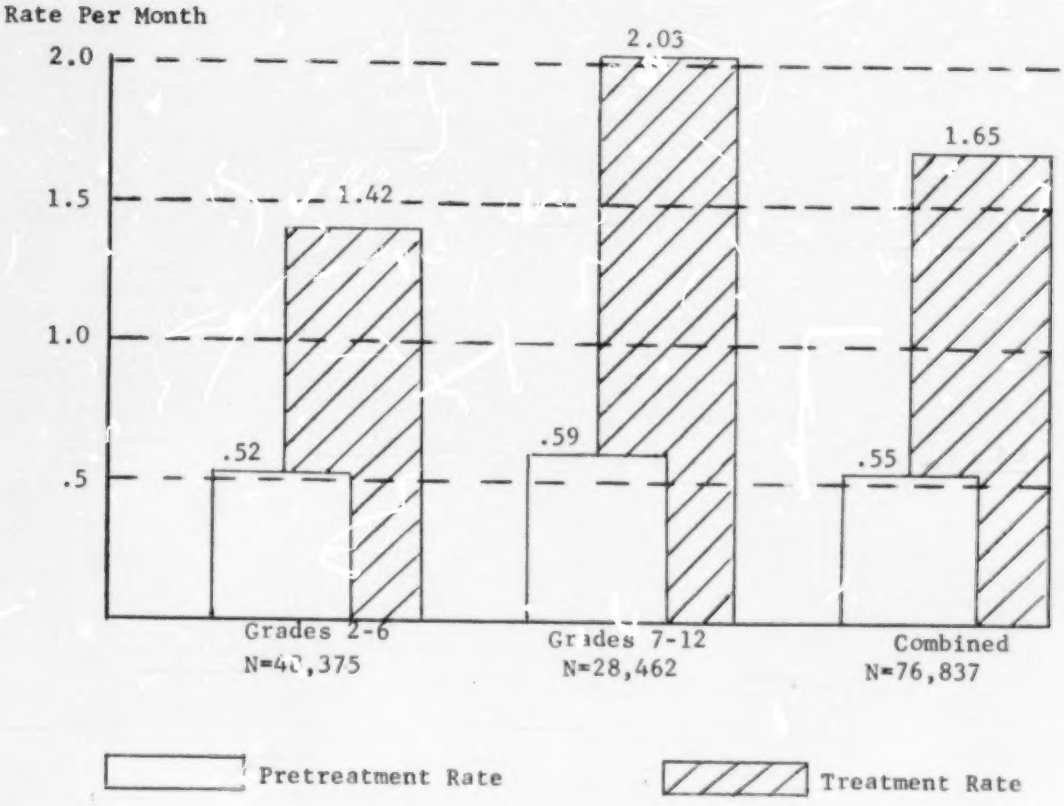
Illustration 14

Public School Mathematics Achievement
in Grade Equivalent Units



Close to 66,000 public school pupils tripled their rate of achievement for each month of remedial mathematics participation. Like their nonpublic school counterparts, the public school participants were catching up to their more advantaged peers at a rate of over a month for each month of compensatory activities.

Illustration 15
Public and Nonpublic Mathematics Achievement
in Grade Equivalent Units

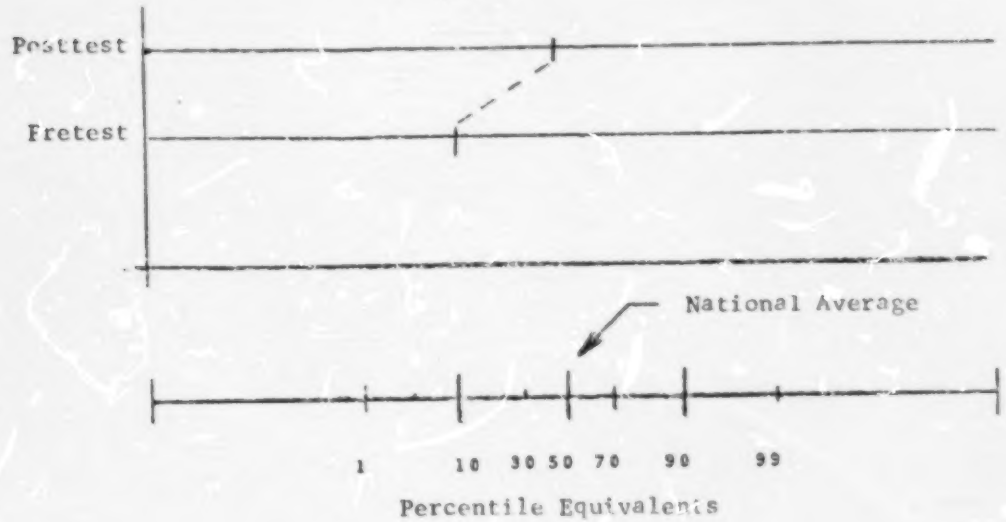


Nearly 77,000 public and nonpublic school pupils demonstrated a little over one-half month of mathematics achievement prior to ESEA Title I intervention. During treatment they averaged over a month and a half for each month of supplementary instruction.

Illustration 16

Public and Nonpublic Elementary Mathematics Achievement

N = 5,378

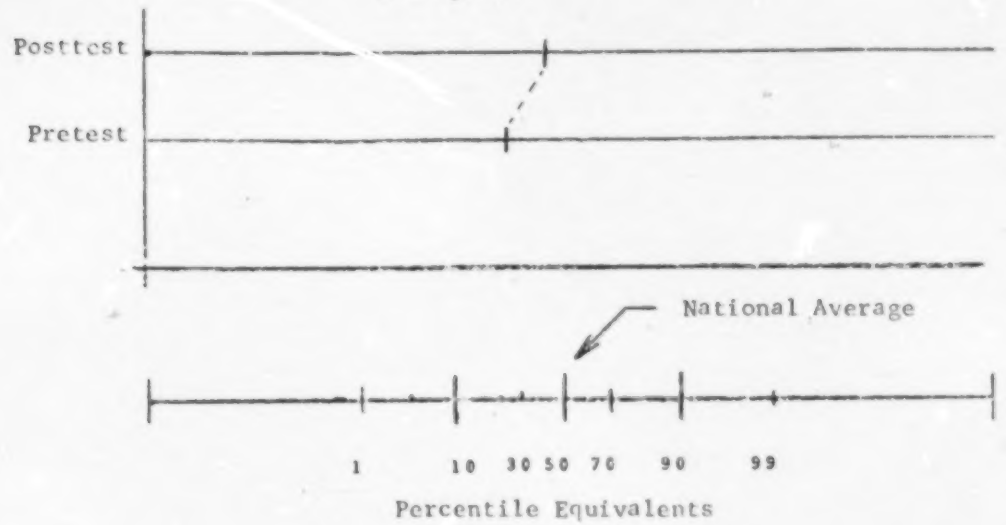


About 5,400 mathematics elementary public and nonpublic students scored around the 10th percentile at the point of pretest administration. The average score of the same participants had reached the 40th percentile at the conclusion of the treatment.

Illustration 17

Secondary Public and Nonpublic Mathematics Achievement

N = 3,716



The 3,700 secondary public and nonpublic mathematics participants were dispersed around an average of the 27th percentile rank on the pretest. The middlemost pupil had obtained a percentile rank of 37 on the posttest, an advance of 10 percentile ranks over the achievement expected in the absence of ESEA Title I intervention.

CHAPTER VI

ACHIEVEMENT DATA FOR HANDICAPPED PUPILS SERVED UNDER TITLE I (PARTS A, B AND C)

In addition to the expenditures under other Federal funds specifically for handicapped youngsters, districts may elect to serve handicapped pupils under Parts A, B and C of PL 89-380.

Reading

The data in table 3 provide a summary of these pupils' data as measured by norm-referenced standardized reading achievement tests, distributed by grade level intervals, and reported in grade equivalent units. Since handicapped populations frequently include pupils who have difficulty maintaining skill levels already acquired, growth on reading achievement tests may be interpreted as indicators of program success.

Table 3

Summary of Reading Data for Handicapped Pupils
1975-76 Title I (Parts A, B and C)

Source of Data	Total Pupil Count	Pupils Tested
Treatments where significant differences were established	3,570	3,065
Treatments where significant differences were not established	156	146
TOTAL:	3,726	3,211

Mathematics

Handicapped pupils also received remediation in mathematics skill areas. As was the case with reading, the measurement of growth in mathematics on norm referenced devices may be appropriate to only certain kinds of handicapped youngsters. Based upon 599 pupils treated,

451 were tested. Therefore, table 4 indicates the number of pupils in successful treatments where statistically significant differences were revealed. These pupils all showed a gain on standardized tests. Title I provided services and materials during which these pupils gained needed mathematics skills, instead of simply maintaining skills or falling further behind the nonhandicapped norm population.

Table 4

Summary of Mathematics Data for Handicapped Pupils
1975-76 Title I (Parts A, B and C)

Source of Data	Total Pupil Count	Pupils Tested
Treatments where significant differences were established	599	451
TOTAL:	599	451

CHAPTER VII

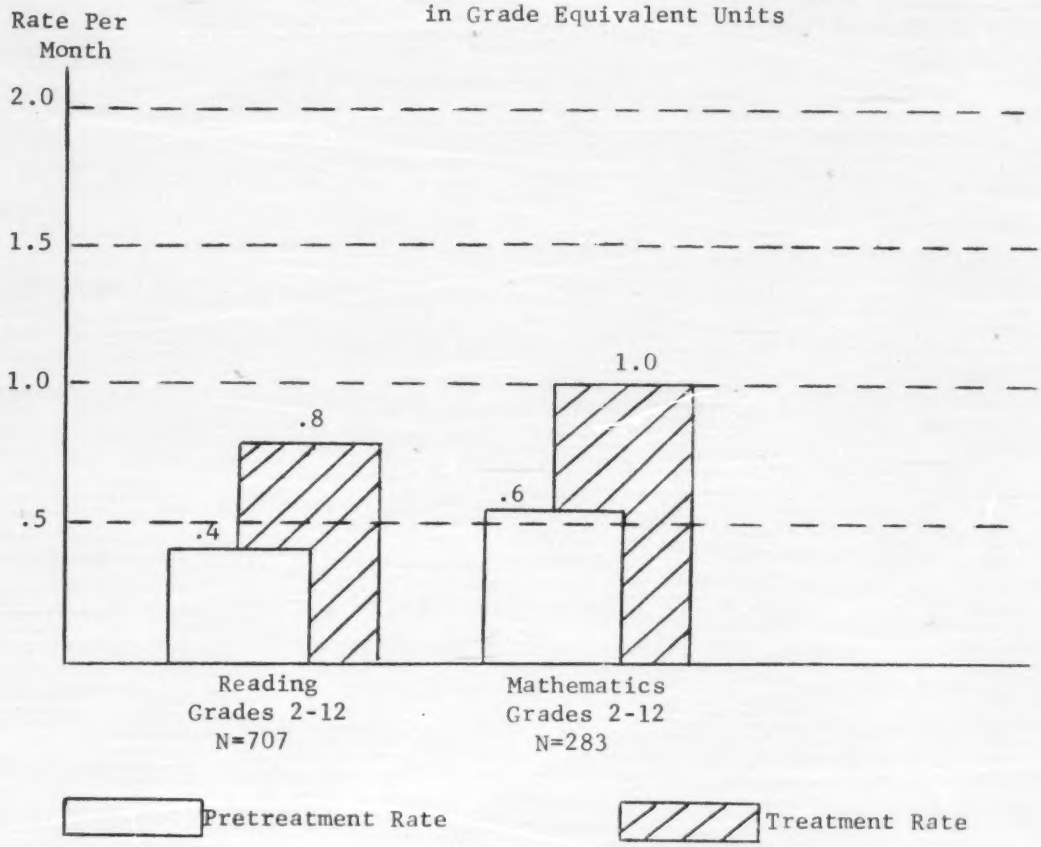
ACHIEVEMENT DATA FOR NEGLECTED AND/OR DELINQUENT PUPILS

Title I funds from Parts A, B and C were made available to institutions providing services for neglected and delinquent youth. The services funded under PL 98-380 primarily provided instruction in the priority areas of reading and mathematics.

Achievement data from upstate projects for neglected and delinquent pupils included 990 pre and posttest matched scores. The reading data on 707 pupils, for whom grade equivalent scores were provided, indicated that the pretreatment rate of gain was .4 month in grade equivalent units for each month of the school year. During supplemental Title I treatment, these pupils gained at a rate of .8 months per grade equivalent unit. The mathematics data on 283 pupils provided in grade equivalents indicated a pretreatment rate of achievement was .6 months. Their rate portrayed in illustration 18 during Title I supplementary treatment was 1 month for each month of treatment as measured by standardized tests.

Illustration 18

Neglected and Delinquent Pupils'
Reading and Mathematics Achievement
in Grade Equivalent Units



CHAPTER VIII

PROJECTS WITH PROMISING ACTIVITIES

The apparent phenomenal growth of educationally disadvantaged youngsters in some project activities is a signal to decision makers. Remedial treatments wherein exceptional student achievement occurred and reasonable costs were associated with the facilities, staff, and materials are cited as promising activities for replicating in similar situations.

Title of Project: Diagnostic/Prescriptive Math Program	
Location: District #24 Queens	Grades: 4 and 5
Budget: $64,688	
Cost/Participant: $674	Participants: 96

Major Goal: The pupils were expected to demonstrate achievement in computation, concepts, and problem solving beyond the magnitude anticipated based upon their past performance as measured by the Stanford Mathematics Test.

Activities: The Diagnostic/Prescriptive Math Program established two remedial mathematics centers each staffed by a math specialist teacher. Each center serviced four groups of 12 pupils for an hour each day, five days a week. The instructional methodology for this project was an individualized, self-contained instructional methodology for this project was an individualized, self-contained instructional system with eleven skill area strands (numeration, addition, subtraction, multiplication, division, fractions, applications, money, time, measurements and geometry). The individualized math program was organized to present the math skills and concepts in logical succession of eleven content strands and nine levels of difficulty for each strand. The program was implemented in two phases. The first phase was a comprehensive placement testing via eleven content strands. Based upon the profile developed as a result of the placement testing, the teacher began an on-going series of test - teach - test cycles which constituted the prescriptive implementation phase. Each teaching cycle was composed of a series of activities which included math activities with mathematical manipulative instructional materials. Pupils worked in math skill folders and small group math seminars led by the teacher. Following the teaching cycle, unit posttests were taken to determine mastery. If the student had mastered the unit, she/he moved on to another instructional unit. If the unit was not mastered, a reteaching process ensued. Program implementation was monitored by a math resource teacher who was also responsible for inservice and preservice training in the utilization of materials and demonstration lessons and observations aimed at maximizing instructional effectiveness.

Findings: Program evaluation utilized the historical regression procedure on concepts, computation and applications subtests, as well as total score on the Stanford Achievement Test (1973). For the 93 pupils with complete data, the pretest means were 3.2, 3.9, 3.0 and 3.2 for concepts, computation application and total score, respectively. Associated predicted posttest means were 3.53, 4.36, 3.31 and 360. The actual posttest means were: 4.59 for the concepts subtest, 5.04 for computation, 4.33 for applications and 4.7) for the total score. Correlated "t" ratios were calculated at 8.18, 5.70, 10.0 and 13.41, all of which were significant beyond the .001 level. Actual pretest to posttest gains were 1.4 years, 1.1 years, 1.3 years and 1.45 years for total score. With a treatment period of eight months, achievement levels indicate more than one and a half months of growth for each month of instruction.

Title of Project: Remedial Reading	
Location: Jamestown	Grades: 4-6
Budget: $35,072	
Cost/Participant: $328	Participants: 107

Major Goal: The target population was expected to achieve one month for each month of supplementary service as measured by the Iowa test of Basic Skills.

Activities: The program was developed to capitalize on objectives (based upon essential reading behaviors) that were assessed by a series of diagnostic tests administered on audio cassettes. Resource materials and skill routines were prescribed for those objectives failed. Closely kept records of pupil progress were entered on the profiles after individually prepared assignments were mastered. The treatment provided approximately 100 hours of supplementary instruction for each pupil in a resource area separate from the classroom.

Findings: Eighty-seven (87) pupils had both pretest and posttest total reading scores from the fall and spring administrations. In the eight months elapsing between tests, the target population achieved eight months growth, while the pupils own past performance indicated that no more than 5 months growth should have been expected.

Title of Project: Remedial Math Services

Location: Oyster Bay-East Norwich Grades: 4 and 5

Budget: $16,005

Cost/Participant: $372 Participants: 43

Major Goal: The target population was expected to achieve ten months mathematics growth in grade equivalent units as measured by the Metropolitan Achievement Test.

Activities: Remedial teachers provided instruction on an individual basis or in small groups at least one-half hour a day for a minimum of three days a week. The focus on computation and concepts permitted remedial teachers to reinforce regular classroom topics by providing a variety of manipulative materials addressing the topics through alternative approaches.

Findings: The 19 fourth grade pupils and 21 fifth grade pupils for whom both combined mathematics pretest and posttest scores were available were expected to achieve about one-half month growth for each month of regular classroom exposure. The target population actually achieved 2 months growth for each month of participation in ESEA, Title I activities.

Title of Project: Special Services for Disadvantaged Children

Location: Ticonderoga Central School Grades: 3-5

Budget: $26,042

Cost/Participant: $449 Participants: 58

Major Goal: The participants in grades 3 through 5 were expected to achieve more in reading than should be anticipated from their past performances as measured by the Gates-MacGinitie Reading Surveys.

Activities: One full-time reading teacher, one part-time assistant teacher and three part-time certified aides provided instruction for small groups (less than 8 students) and individual pupils. The participants met 5 times a week for 40 or 50 minutes after the Stanford Diagnostic Reading Test or Fountain Valley, or Wisconsin Design profiles were developed. The prescriptive activities frequently involved spoken language tasks which were videotaped to show language dificiencies to the classroom teachers for follow up instruction. Soft cover high interest but low vocabulary rangebooks were also prescribed for out of class reading to support vocabulary skill development pursued during the remedial instruction period.

Findings: Eight months elapsed between pretest and posttest administrations of the Gates MacGinitie Surveys for the 56 pupils who were present at both reading test dates. The target population was expected to achieve about 4 months in the interval. The observed posttest average indicated that the group achieved approximately 17 months. This population was catching up to their peers at a rate of one month for each month of supplementary activities.

Title of Project: Tutorial and Study Skill Improvement

Location: Mt. Pleasant - Cottage Union Free School Grades: 4-9

Budget: $28,320

Cost/Participant: $236 Participants: 120 neglected

Major Goal: The mean of the participants' grade level equivalent scores was to increase beyond expectation without treatment in total reading and mathematics as measured by the Metropolitan Achievement Test.

Activities: The major activities occur three times a week after school for a duration of 75 minutes in the living units (cottages) for each group of ten children. Fifteen (15) teachers provide tutorial services for executing remedial prescriptions assibned by the classroom teachers. The participants have individual tasks to perform that reinforce the goals of the regular classroom.

Findings: The past rate of achievement indicated that the target population would achieve about 4 months in reading and about 4 1/2 months in mathematics across the 7 months between the pretest and posttest administrations of the Metropolitan Achievement Test. The actual growth obtained from 109 pupils in grades 4 through 9 for which both pretest and posttest scores were available was 8 months in reading and nearly 8 months in mathematics. Since more months of growth were obtained than elapsed between tests, the pupils recovered some distance between themselves and the average achieving pupil.

Title of Project: Conservation of Human Resources

Location: Enlarged City School District of Troy Grades 4-6

Budget: $18,236

Cost/Participant: $456 Participants: 40 nonpublic

Major Goal: The target population was expected to demonstrate mathematics achievement beyond expectation (based upon past performance) as measured by the total Metropolitan Mathematics Achievement Test score.

Activities: In addition to the September, 1975 pretest with the Metropolitan Achievement Test, diagnostic tests were administered and individual prescriptions were prepared. The participants met daily for 40 minutes in groups of eight at a separate site in St. Patrick's or St. Peter's schools at a time that did not conflict with regular classroom basic skills instruction. Teachers not only prepared prescriptions for the special sessions but developed student prescriptions for the regular classroom teachers that involved different materials in the regular classroom.

Findings: Based upon the pupils past performance approximately 5 months achievement could have been in the 8 months that elapsed between the pretest and posttest administrations. The total mathematics scores indicated that 13 months growth on the average was achieved in that 8 month period.

Title of Project: Remedial Education - Appropriate Corrective Treatment

Location: Franklin Square Grades 4-6

Budget: $21,272

Cost/Participant: $434 Participants: 49

Major Goal: The public and nonpublic school target population was expected to achieve one year's combined reading growth in grade equivalent units across the 8-month period between administrations of the Stanford Achievement Test.

Activities: The diagnostic phase of the program for the 49 pupils in grades four, five, and six resulted in an individualized profile of reading skills slated for reteaching. Small groups of four to five pupils with common skill deficiencies met for three consecutive days a week for approximately 80 minutes per week with a corrective reading teacher. Materials were available not only for directed remedial instructions but also for classroom follow up and/or independent practice exercises.

Findings: The combined reading scores indicated that the public and nonpublic school participants achieved approximately two and one half years growth across a period when about one-half year's growth was anticipated in the absence of ESEA, Title I services.

Title of Project: Mathematics Learning Center

Location: New York City Community School Dist. 15, Brooklyn, New York Grades: 3-5

Cost: $698,810

Cost/Participant: $339 Participants: 2,061

Major Goal: The target population was expected to show a statistically significant difference ($p \leq .05$) between the actual posttest score and the anticipated mean score as measured by the Metropolitan Achievement Test.

Activities: Eighteen ESEA, Title I schools housed Mathematics Learning Centers. The district implemented a classroom management system wherein prescriptions using materials from over 30 different publishers were tied to approximately 500 objectives with criterion-referenced test items. After, the initial diagnostic phase the teacher and aide in each center organize the prescriptive materials for the particular isolated deficiency for each participant. The pupils are retested on criterion-referenced items to determine mastery after completing the prescriptions.

Findings: The Metropolitan Achievement Test was administered in October 1975 and May 1976. Grade 3 participants (455 of whom had both pretest and posttest scores) were expected to achieve 4 months without ESEA, Title I services. The pupils averaged 9 months growth in that period. The achievement obtained for 564 fourth grade pupils was 10 1/2 months in contrast to the 3 1/2 months expected. Five hundred (500) fifth grade pupils achieved 10 months growth when their past record indicated that no more than 4 1/2 months growth should have been expected.

Title of Project: Developmental and Remedial Reading Program

Location: Averill Park Grades: 2-5

Budget: $34,279

Cost/Participant: $408 Participants: 84

Major Goal: These pupils will demonstrate reading achievement at a rate beyond that expected from past performance as measured by the Stanford Achievement Test.

Activities: A phonetic and structural analysis focus provided the basis for the preservice orientation for the two teaching aides. The aides, working under the supervision of the reading teacher, were responsible for guiding students in the individual follow up activities that involved programmed lessons and other audiovisual support or reinforcement materials. Pupils generally met in small groups of two to eight for 30 minutes either two, three, or five times per week.

Findings: The Stanford Achievement Tests were administered in October and May. The 80 participants who were expected to achieve about 4 1/2 months growth across that time span without ESEA, Title I intervention actually achieved 8 1/2 months growth. The pupils who were falling behind at a rate of .4 month for each month of regular classroom activities ceased falling further behind and started to recover some of the lost distance between themselves and their more advantaged peers at a rate of .2 month for each month of supplementary instruction.

Title of Project: Diagnostic Reading Program	
Location: New York City Community School District #18	Grades: 2-6
Budget: $236,834	
Cost/Participant: $677	Participants: 350

Major Goal: The pupils were expected to increase their rate of reading achievement beyond the rate that they entered the remedial treatments with.

Activities: Groups of 10 to 15 children were scheduled for 4 to 5 periods lasting 40 minutes each at one of 4 centers. The 5 reading teachers and 10 educational assistants determined the reading problems of individual children, developed and executed skill related tasks, and participated in an intensive weeklong training session largely oriented toward diagnostic and prescriptive reading techniques.

Findings: The combined reading scores for 342 participants were collected in October, 1975 and May, 1976. The rate of achievement demonstrated previously had been approximately one-half month for each month of regular classroom instruction. The pupils actually achieved slightly more than one month for each month in the regular classroom plus the supplementary activities. The pupils doubled their rate of acquisition of reading skills.

CHAPTER IX

OMITTED ACHIEVEMENT DATA

Selected data reported by the districts were excluded from the achievement report based upon measurement requirements determined by the SEA. Although these exclusions may depress the impact of the report, the data were not included in the achievement section for the following reasons: (1) the duration of treatment was less than or equal to three months, (2) the pretest and posttest means indicated that the participant groups made no gain while receiving Title I services, (3) the score types reported were not convertible by the SEA to usable form (i.e., grade equivalent units, percentile rank), or (4) the measurement devices administered were not comparable to the norm-referenced tests that were analyzed.

Group means for approximately 42,000 participants were not considered either sufficiently reliable or interpretable for aggregation with those scores reported in Chapters III, IV, and V. Group means for approximately 33,000 participants were considered sufficiently reliable to conclude that the target pupils involved did no better during ESEA, Title I activities than prior to the supplementary intervention. However, such participants performance generally did not deteriorate further. Contrary to the trend (documented by social scientists in the late 1960's) for disadvantaged pupils without compensatory education.